

USSN 09/337,584

In the Claims

Applicant has submitted a new complete claim set showing marked up claims with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing.

Please cancel claim 5⁹ without prejudice or disclaimer.

No new claims have been added

1-41. (Canceled).

42. (Previously Presented) A method for treating asthma in a subject, comprising administering to an asthmatic subject an effective amount for treating asthma in the subject of an immunostimulatory nucleic acid, having a sequence including at least the following formula:



wherein C is unmethylated, wherein X_1X_2 and X_3X_4 are nucleotides, wherein at least one internucleotide linkage has a phosphate backbone modification.

43. (Previously Presented) The method of claim 42, wherein the $5' X_1 X_2 CGX_3 X_4 3'$ sequence is a non-palindromic sequence.

44. (Currently Amended) A method for treating asthma in a subject, comprising administering to an asthmatic subject an effective amount for treating asthma in the subject of an immunostimulatory nucleic acid, having a sequence including at least the following formula:



wherein C is unmethylated, wherein X_1X_2 and X_3X_4 are nucleotides, wherein the nucleic acid has a length of 8 to 100 nucleotides.

USSN 09/337,584

45. (Previously Presented) The method of claim 42, wherein the phosphate backbone modification is a phosphorothioate modification.

46. (Previously Presented) The method of claim 42, wherein the nucleic acid backbone includes the phosphate backbone modification on the 3' side of the nucleic acid.

47. (Previously Presented) The method of claim 42, wherein the phosphate backbone modification is a phosphorodithioate modification.

48. (Canceled).

49. (Previously Presented) The method of claim 42, wherein X_1X_2 are GpA and X_3X_4 are TpT.

50. (Previously Presented) The method of claim 42, wherein X_1 and X_2 are purines and X_3 and X_4 are pyrimidines.

51. (Previously Presented) The method of claim 42, wherein X_1X_2 are GpA and X_3 and X_4 are pyrimidines.

52. (Previously Presented) The method of claim 42, wherein the immunostimulatory nucleic acid is 8 to 40 nucleotides in length.

53. (Previously Presented) The method of claim 42, wherein the immunostimulatory nucleic acid is an isolated immunostimulatory nucleic acid.

54-55. (Canceled).

USSN 09/337,584

56. (Previously Presented) The method of claim 42, wherein the immunostimulatory nucleic acid comprises the following nucleotide sequence TCCATGACGTTTCCTGACGTT (SEQ ID NO. 10).

57. (Previously Presented) The method of claim 42, wherein the immunostimulatory nucleic acid comprises a nucleotide sequence selected from the group of the following nucleotide sequences TCCATAACGTTTCCTGATGCT (SEQ ID NO:3), TCCATGTCGTTTCCTGATGCT (SEQ ID NO:38), and TCCATGACGTTTCCTGATGCT (SEQ ID NO:7).

58. (Canceled).

59. (Canceled)

60-81. (Canceled).

82. (Previously Presented) A method for treating asthma in a subject, comprising administering to an asthmatic subject an effective amount for treating asthma in a subject of an immunostimulatory nucleic acid, wherein the immunostimulatory nucleic acid is 8-40 nucleotides in length, includes a 5'TC and comprises a nucleotide sequence GTCGTT (SEQ. ID. NO: 57).

83. (Previously Presented) The method of claim 82, wherein the nucleic acid has a phosphodiester backbone.

84. (Previously Presented) The method of claim 82, wherein the nucleic acid has a chimeric phosphodiester-phosphorothioate backbone.

USSN 09/337,584

85. (Previously Presented) The method of claim 82, wherein the immunostimulatory nucleic acid comprises the following nucleotide sequence GGGGTCAACGTTGAGGGGGG (SEQ ID NO:12).

86-89. (Canceled).

90. (Currently Amended) A method for treating asthma in a subject, comprising administering to an asthmatic subject an effective amount for treating asthma in the subject of a nucleic acid, having a sequence including at least the following formula:



wherein C is unmethylated, wherein X_1X_2 and X_3X_4 are nucleotides, wherein at least one internucleotide linkage has a phosphate backbone modification and wherein the nucleic acid has a length of 8 to 40 nucleotides.

91. (Canceled)

92. (Previously Presented) A method for treating asthma in a subject, comprising orally administering to an asthmatic subject an effective amount for treating asthma in the subject of a nucleic acid having a sequence including at least the following formula:



wherein C is unmethylated, and wherein X_1X_2 and X_3X_4 are nucleotides.

93. (Canceled).

94. (Previously Presented)) A method for treating asthma in a subject, comprising administering to an asthmatic subject an effective amount for treating asthma in the subject of a nucleic acid having a sequence including at least the following formula:

USSN 09/337,584



wherein C is unmethylated, wherein X_1X_2 and X_3X_4 are nucleotides, and wherein the nucleic acid is administered by a route selected from the group consisting of transdermal and subcutaneous.

95. (Canceled)

96. (Previously Presented) A method for treating asthma in a subject, comprising administering to an asthmatic subject an effective amount for treating asthma in the subject of a nucleic acid having a sequence including at least the following formula:



wherein C is unmethylated, wherein X_1X_2 and X_3X_4 are nucleotides, and wherein the nucleic acid is administered in a formulation selected from the group consisting of a nucleic acid delivery complex, a liposome, a virosome, and a nanoparticle.

97. (Canceled)

98. (Previously Presented) The method of claim 42, wherein the nucleic acid is administered by a route selected from the group consisting of oral, transdermal, and subcutaneous.

99. (Canceled).

100. (Previously Presented) The method of claim 42, wherein the nucleic acid is delivered in a formulation selected from the group consisting of a nucleic acid delivery complex, a liposome, a virosome, and a nanoparticle.

101. (Canceled).

USSN 09/337,584

102. (Previously Presented) The method of claim 44, wherein at least one internucleotide linkage of the nucleic acid has a phosphate backbone modification.

103. (Previously Presented) The method of claim 44, wherein the phosphate backbone modification is a phosphorothioate modification.